



AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the above-referenced application.

Listing of Claims:

1-39. (cancelled)

40.(previously presented) A method of producing an oriented oxide superconducting film, comprising:

- (a) providing a metal oxyfluoride film on a substrate, said metal oxyfluoride film comprising the constituent metallic elements of an oxide superconductor in substantially stoichiometric proportions;
- (b) converting the metal oxyfluoride into the oxide superconductor in a processing gas having a total pressure less than atmospheric pressure under conditions that enable the removal of HF from the film surface.

41.(original) The method of claim 40, wherein the total pressure is less than about 8 Torr.

42.(original) The method of claim 41, wherein the total pressure is less than about 1 Torr.

43.(original) The method of claim 42, wherein the total pressure is less than about 0.1 Torr.

44.(original) The method of claim 43, wherein the total pressure is less than about 0.01 Torr.

45.(original) The method of claim 44, wherein the total pressure is less than about 0.01 Torr.

46.(original) The method of claim 45, wherein the total pressure is less than about 0.001 Torr.

47.(original) The method of claim 40, wherein the processing gas consists substantially of water vapor and oxygen.

48.(previously presented) The method of claim 40, further comprising depositing a buffer layer on the substrate before step (a).

- 49.(original) The method of claim 48, wherein the buffer layer comprises a member of yttria-stabilized zirconia, LaAlO_3 , SrTiO_3 , CeO_2 , Y_2O_3 , and MgO and any combination of the above.
- 50.(original) The method of claim 40, wherein the film has a thickness of at least $0.3\mu\text{m}$.
- 51.(currently amended) The method of claim 50, wherein the film has a thickness of at least $0.5\mu\text{m}$ ~~0.5mm~~ .
- 52.(original) The method of claim 51, wherein the film has a thickness of at least $0.8\mu\text{m}$.
- 53.(original) The method of claim 52, wherein the film has a thickness of at least $1\mu\text{m}$.
- 54.(original) The method of claim 40, wherein the superconductor comprises YBCO.
- 55.(original) The method of claim 40, wherein the substrate comprises a ceramic.
- 56.(original) The method of claim 55, wherein the ceramic is selected from the group consisting of YSZ, LaAlO_3 , SrTiO_3 , CeO_2 , and MgO .
- 57.(original) The method of claim 40, wherein the substrate comprises a metal having a texture selected from untextured, uniaxial texturing, and biaxial texturing.
- 58.(original) The method of claim 57, wherein the metal is selected from steel, nickel, iron, molybdenum, copper, silver, and alloys and mixtures thereof.
- 59.(original) The method of claim 40, wherein the film has a J_c greater than 0.45 MA/cm^2 .
- 60.(original) The method of claim 59, wherein the film has a J_c greater than 1 MA/cm^2 .
- 61.(original) The method of claim 60, wherein the film has a J_c greater than 2 MA/cm^2 .
- 62.(original) The method of claim 61, wherein the film has a J_c greater than 4 MA/cm^2 .
63. (withdrawn) The method of claim 1, wherein the PH_2O during step (b) is less than 10 mTorr .

64. (withdrawn) The method of claim 1, wherein the PH_2O during step (c) is between 150 and 350 mTorr.
65. (withdrawn) A c-axis textured superconducting film fabricated by the steps of
(a) providing a metal oxyfluoride film on a substrate, said metal oxyfluoride film comprising the constituent metallic elements of an oxide superconductor in substantially stoichiometric proportions; and
(b) converting the metal oxyfluoride into the oxide superconductor in a processing gas having a total pressure less than atmospheric pressure under conditions that enable the removal of HF from the film surface.
66. (withdrawn) The c-axis textured superconducting film of claim 65, wherein the texture is biaxial.
67. (withdrawn) The c-axis textured superconducting film of claim 65, wherein the film has a J_c greater than 0.45 MA/cm^2 .
68. (withdrawn) The c-axis textured superconducting film of claim 67, wherein the film has a J_c greater than 1 MA/cm^2 .
69. (withdrawn) The c-axis textured superconducting film of claim 68, wherein the film has a J_c greater than 2 MA/cm^2 .
70. (withdrawn) The c-axis textured superconducting film of claim 69, wherein the film has a J_c greater than 4 MA/cm^2 .
71. (withdrawn) The c-axis textured superconducting film of claim 65, wherein the total pressure is less than about 8 Torr.
72. (withdrawn) The c-axis textured superconducting film of claim 65, wherein the total pressure is less than about 1 Torr.
73. (withdrawn) The c-axis textured superconducting film of claim 72, wherein the total pressure is less than about 0.1 Torr.

74. (withdrawn) The c-axis textured superconducting film of claim 73, wherein the total pressure is less than about 0.01 Torr.
75. (withdrawn) The c-axis textured superconducting film of claim 74, wherein the total pressure is less than about 0.01 Torr.
76. (withdrawn) The c-axis textured superconducting film of claim 75, wherein the total pressure is less than about 0.001 Torr.
77. (withdrawn) The c-axis textured superconducting film of claim 65, wherein the processing gas consists substantially of water vapor and oxygen.
78. (withdrawn) The c-axis textured superconducting film of claim 65, wherein the substrate comprises a base and a buffer layer interposed between the base and the superconducting film.
79. (withdrawn) The c-axis textured superconducting film of claim 78, wherein the buffer layer comprises a member of ceria, yttria-stabilized zirconia, yttrium oxide, and any combination of the above.
80. (withdrawn) The c-axis textured superconducting film of claim 65, wherein the film has a thickness of at least 0.5 μ m.
81. (withdrawn) The c-axis textured superconducting film of claim 80, wherein the film has a thickness of at least 1 μ m.
82. (withdrawn) The c-axis textured superconducting film of claim 65, wherein the superconductor comprises YBCO.
83. (withdrawn) The c-axis textured superconducting film of claim 65, wherein the substrate comprises a ceramic.
84. (withdrawn) The c-axis textured superconducting film of claim 83, wherein the ceramic is selected from the group consisting of YSZ, LaAlO₃, SrTiO₃, CeO₂, and MgO.
85. (withdrawn) The c-axis textured superconducting film of claim 65, wherein the substrate comprises a metal.

86. (withdrawn) The c-axis textured superconducting film of claim 85, wherein the metal is selected from steel, nickel, iron, molybdenum, copper, silver, and alloys and mixtures thereof.